



# 6

## Urban Design Framework

### Site Assessment

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### Comparison of Building Areas

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### Urban Design Framework

- Building Organization and Built Form
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  - Building Program
  - Building Heights
  - View Corridors
- Open Space
- Circulation
  - Pedestrian Circualtion
  - Vehicular Circulation
  - Parking

### Wayfinding

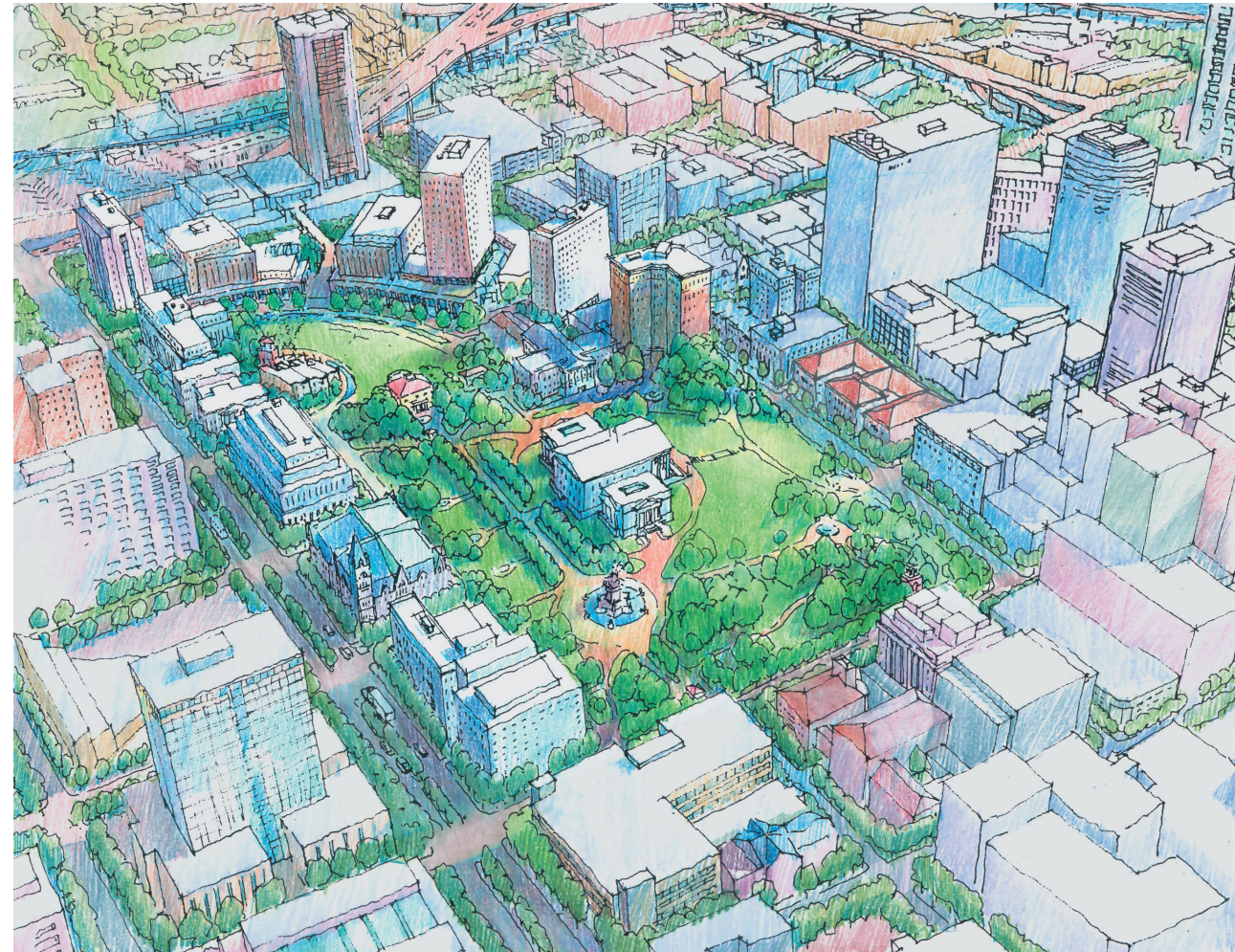


Fig. 6-1 Perspective views of the new Capitol Square complex



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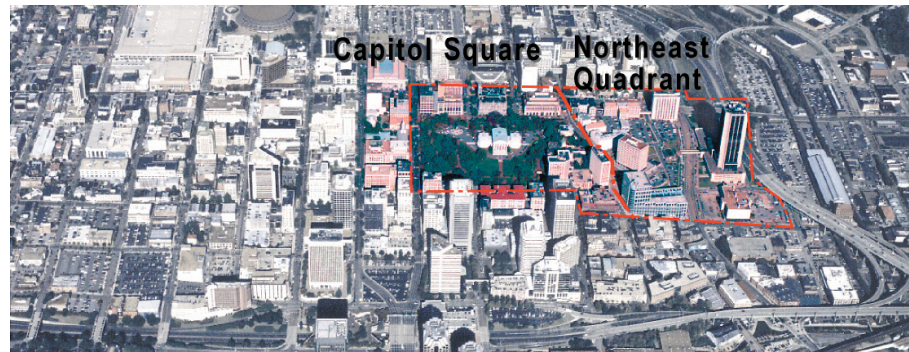


Fig. 6-2 Existing condition of Capitol Square area



Fig. 6-5 Opportunities Map



Fig. 6-3 Picturesque character of Capitol Square



Fig. 6-4 Existing northeast quadrant

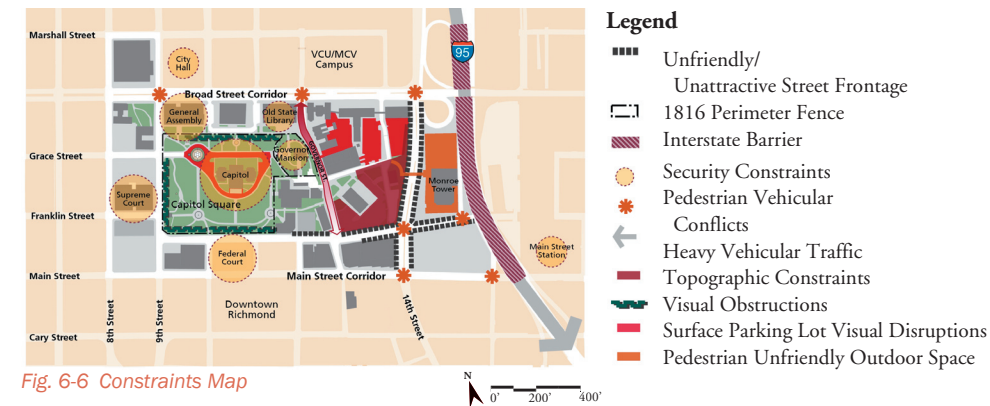


Fig. 6-6 Constraints Map

The selected Space Program Option A—using full Capitol Square potential and yielding the greatest total square footage, as described in Chapter 5—was the starting point for generating urban design options for the site. This chapter describes site and historical influences, the underlying design principles, the exploration of design options, and selection and refinement of an urban design framework that will guide development of the Capitol Square complex. The design concepts presented are based on a projected 10-year space need and reflect projects currently undertaken by DGS.

## Site Assessment

### Site Opportunities and Constraints

Many buildings near the Capitol, itself, are undergoing renovation or will undergo renovation in the next 5 years (2008). The analysis of existing Capitol Square site conditions (Chapter 3) identified the eastern part of the complex as requiring significant improvements. This area provides long-term opportunities for new construction and has been the focus of a number of previous master plan proposals. As part of this master planning process, the consultant team reviewed these earlier design concepts. The following is a summary of the main design ideas.



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Fig. 6-7 View of the Capitol from Church Hill



Fig. 6-8 "View of the City of Richmond from the Bank of James River" by B. Henry Latrobe, 1789

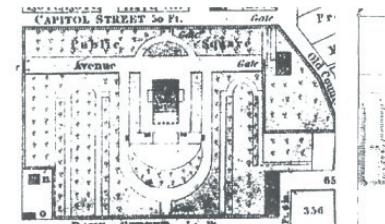


Fig. 6-9 1835 Godefroy Plan

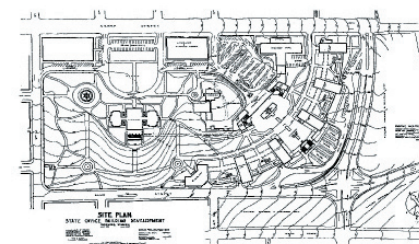


Fig. 6-10 1952 Master Plan



Fig. 6-11 Proposed Sauders and Pearson buildings (1972)

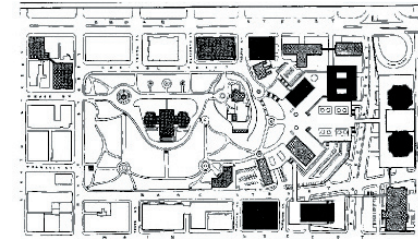


Fig. 6-12 1970 Master Plan

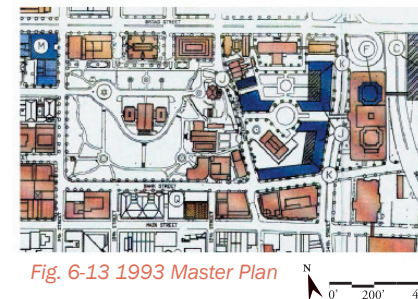


Fig. 6-13 1993 Master Plan



Fig. 6-14 View of proposed Fountain Plaza in northeast quadrant (1993)

Images of previous Capitol Square complex master plan proposals

### Previous Capitol Square Complex Master Plan Proposals: Design Evaluation

1952: Marcellus Wright & Son, Merrill C. Lee, Baskervill & Son Architects, and Carneal & Johnston Architects.

As the first master plan prepared for the Capitol Square complex, the 1952 plan provides a structure for future development, with the Capitol building as the focus. The plan proposes a ring of office buildings surrounding the Capitol building and Governor's Mansion, using topography to its advantage. Governor Street is not part of this plan.

1966: Ballou and Justice. 1970 update by the same firm.

The 1966 Ballou and Justice plan changed the structure of the complex. The plan shows the proposed Governor Street, as well as the single Monroe Building office tower next to the highway. The design concept of a ring of office buildings proposed in the earlier master plan is continued in this plan. A group of office buildings is proposed between Bank and Main streets.

The 1970 version of this plan departs from the earlier ring of office buildings, proposing instead a Monroe Building twin-tower complex aligned with the east west axis of the Capitol building. The complex sits on the parking garage as we see it today. The ring-of-towers concept around the Capitol building is abandoned in favor of a scheme that is symmetrical along the east-west Capitol building axis. Governor Street is absent in this plan. Significant changes to the topography are proposed, with a number of steps connecting various buildings. The buildings between Main and Bank streets (VRS and Tyler buildings) as well as the Monroe Building—one half of the proposed twin tower complex—were constructed. Memorial Hospital was also constructed according to the master plan.

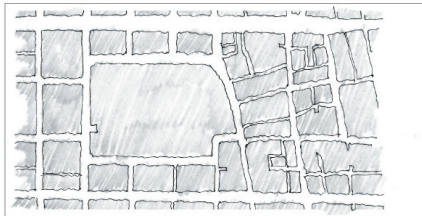


Fig. 6-15 1818 Street Survey

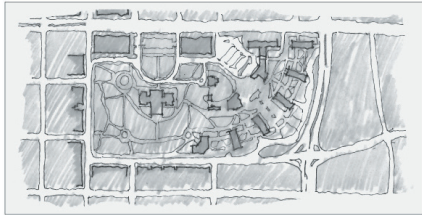


Fig. 6-16 1952 Wright, Lee, Baskerville, Carneal & Johnston Master Plan

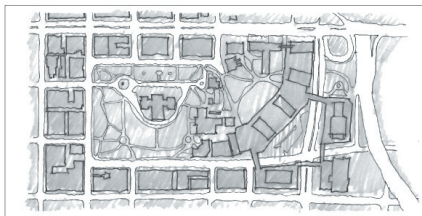


Fig. 6-17 1966 Ballou and Justice Master Plan

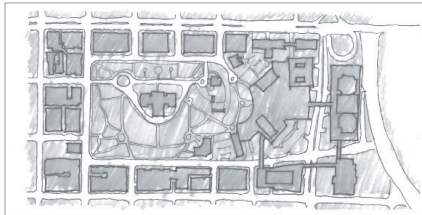


Fig. 6-18 1970 Ballou and Justice Master Plan update

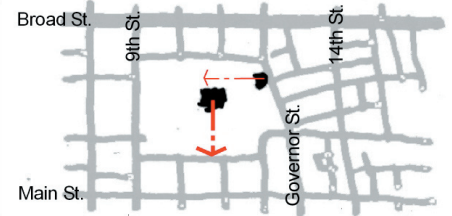


Fig. 6-19 1985 Master Plan

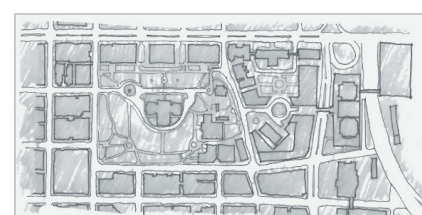
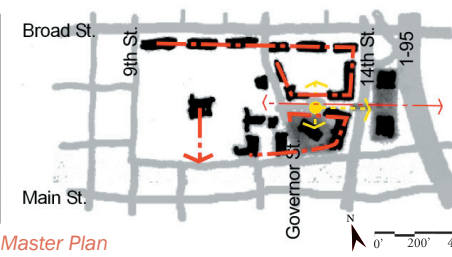
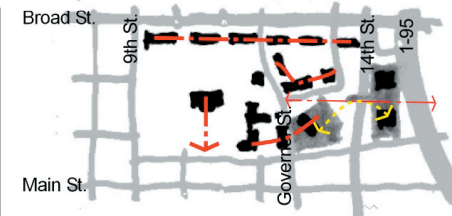


Fig. 6-20 1993 Marcellus Wright Cox & Smith Master Plan



Chronological development of Capitol Square complex through various master plans

1993: Marcellus Wright Cox & Smith, Architects, PC. Master Plan and Study Report for Capitol Square Complex and Broad Street Station Site.

The 1993 master plan provides a detailed 4-phase approach over a 12-year period ending at 2002. Many of the phased proposals of the 1993 plan are currently under planning or in the renovation or construction stage. The plan also provides three long-term options (2002–2010).

### Completion of the Capitol Square ring concept

The existing configuration of Capitol Square buildings reflects previous master plan schemes that were never completed, with the result that the site lacks a clear overall organization. The Madison Building, for example, with its tilted orientation, is a testament to the unrealized ring-of-towers concept. The Monroe two-tower scheme with its axial orientation to the Capitol building is yet another unrealized concept. The intent of the Virginia State Capitol Master Plan is to create a strong unifying framework for the Capitol Square complex that builds on past planning efforts and addresses current needs.



Design Principles

The primary design objective of the master plan is to create a pedestrian friendly eastern campus that relates to and is integrated with the historic Capitol Square grounds. The following principles guided development of each of the three design options discussed later in this chapter.

Open Space Creation

Create a major open space with multiple uses: Open space that could accommodate a variety of uses, such as a plaza, should be created in the northeast area of the Capitol Square complex.

Provide a foreground and open space frontage to new and existing buildings: Open space can provide desirable frontage to the proposed new buildings and help to organize the northeast quadrant of the Capitol Square complex.

Provide a variety of interconnected pedestrian spaces: The main open space should connect to a number of secondary open spaces that provide both entrance and visibility to the main space and accommodate a variety of functions and uses.

Let buildings and open spaces follow the existing topography: Building and site design can be used to smooth transitions in grade and make the northeast quadrant’s topography easier for pedestrians to navigate. Topography and grading should also be used to hide parking garages wherever possible.



Fig. 6-21 Open space

Acknowledge topography in the continuum of history: Topography is a link to historic Capitol Square. Thomas Jefferson intended the Capitol to sit on top of Shockoe Hill to take advantage of views to the James River. The Capitol Square complex is part of this historic Shockoe Hill landscape, which should be restored, particularly in the northeast quadrant. Topography is an important design determinant that can help to improve connections to the Capitol Square grounds and make the area easier for walking.



Fig. 6-22 Built form and building organization

Building Organization and Built Form

Use buildings and landscape to frame public open spaces and walkways and to create a sense of place: The master plan urban design concept should provide a clear organization that will guide future development of the Capitol Square complex. Various buildings can be constructed according to this development framework within the next 10-year period.

Locate non-office uses at the confluence of open space corridors to provide anchors: It is important to mix a variety of uses—such as restaurants, an information center for state office buildings—with the existing predominant office use to create a vital and active pedestrian environment. Any new building in the Capitol Square complex should accommodate mixed commercial uses on the ground floor. Restaurants and a visitor information center could continue to function after office hours. Various tourism-related activities could also be part of the northeast quadrant, particularly during evenings and weekends.



Fig. 6-23 Pedestrian friendly space

### A Pedestrian Friendly Capitol Square Campus

Emphasize connection with Capitol Square: The eastern part of the Capitol Square complex is disconnected from the Capitol Square grounds. The master plan should preserve and strengthen visual and physical connections across the complex, making pedestrian travel easier and more attractive.

Provide uniform Capitol Square street furniture, paving, landscaping, and signage: The existing pedestrian and visitor disorientation can be minimized by introducing uniform street furniture and signage placed at strategic locations.

### Other Design Determinants

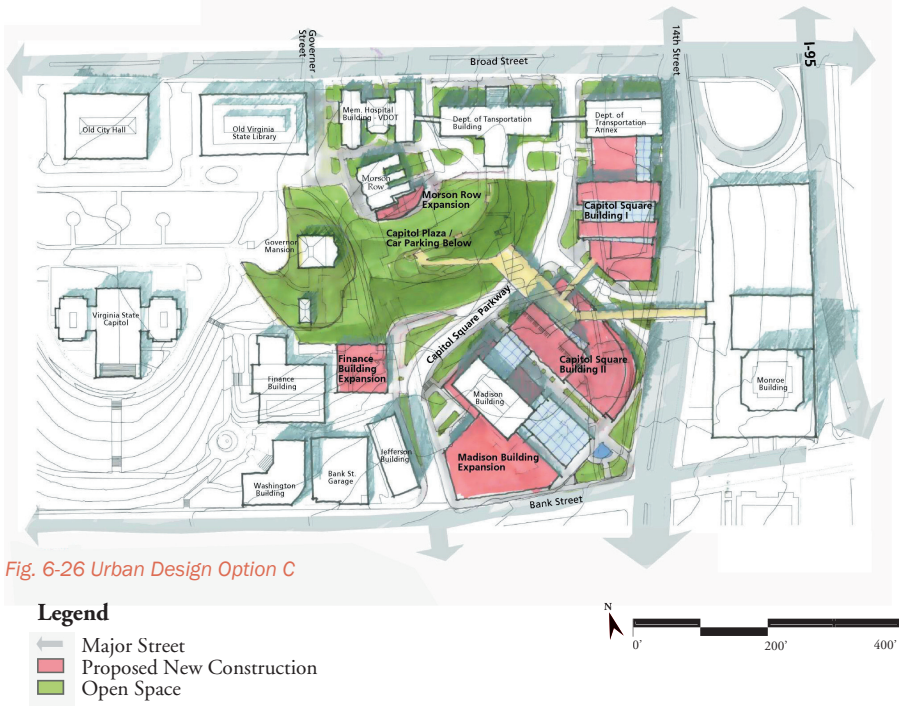
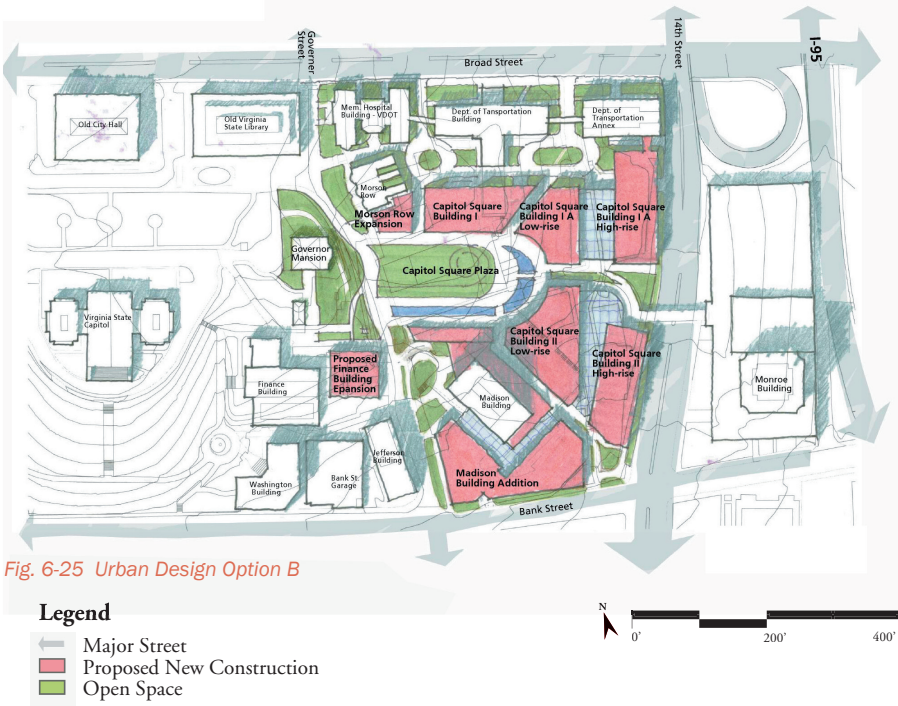
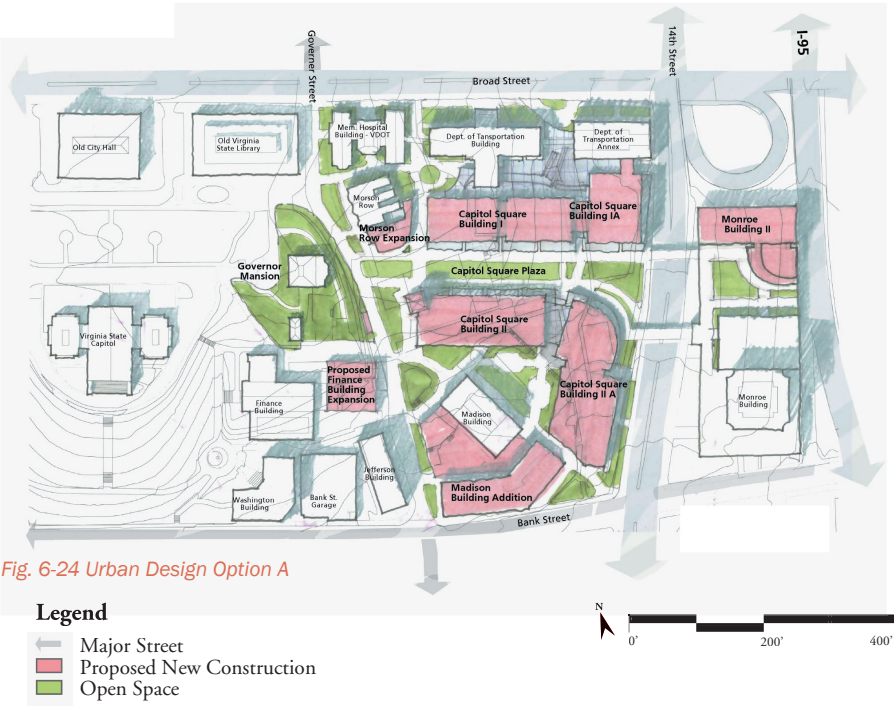
Parking and vehicular traffic design sensitive to the pedestrian: The Capitol Square area has a deficit of 501 parking spaces in the northeast quadrant area. Currently, surface parking lots and vehicular traffic congestion, particularly in the evening peak hours in the Broad Street and 14th Street area, create an environment inhospitable to pedestrians. Parking garages, if provided above ground, need to be sensitively designed, with the possibility of mixed uses at the ground level. Parking and vehicular circulation should be designed so as not to disrupt pedestrian movement.

Security: Security recommendations provided in Chapter 5 should guide any future development in the Capitol Square complex. In this context, provision of underground parking garages for any new Capitol Square complex buildings would require increased security at the entry points.

Governor Street Closing: Closing Governor Street for security reasons has the added benefit of returning the Capitol Square complex to a single, unified campus, with the Capitol building at its center.



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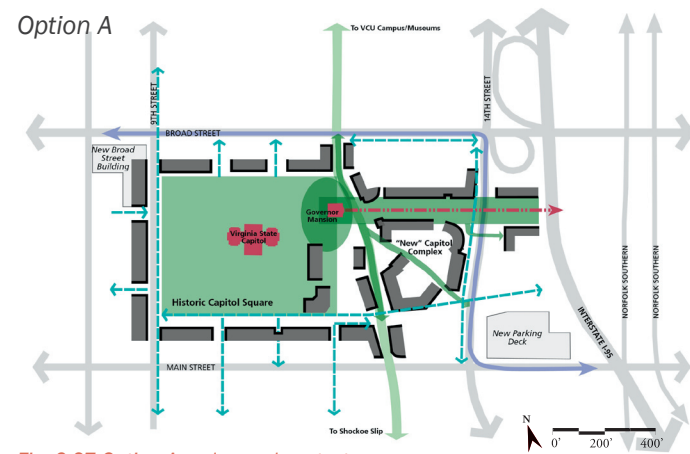


Fig. 6-27 Option A - edge and context

- Legend**
- Railroad Line
  - Proposed Trolley Line
  - Pedestrian Plaza
  - Building Streetwalls
  - Building Mass
  - Proposed Pedestrian Corridor
  - Proposed Pedestrian Connector
  - Sidewalk
  - Open Space

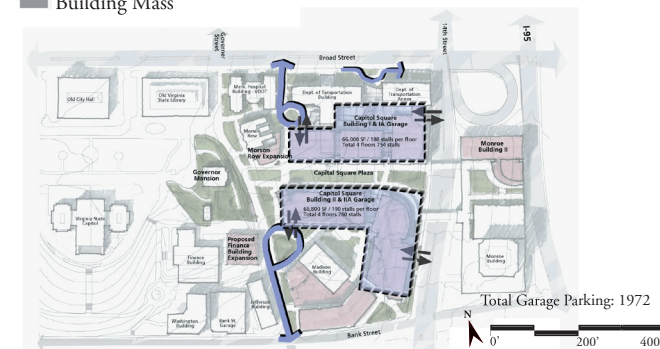


Fig. 6-28 Option A - circulation and parking

- Legend**
- Vehicular Access
  - New Garage
  - Garage Entrance / Exist
  - Street and Highway

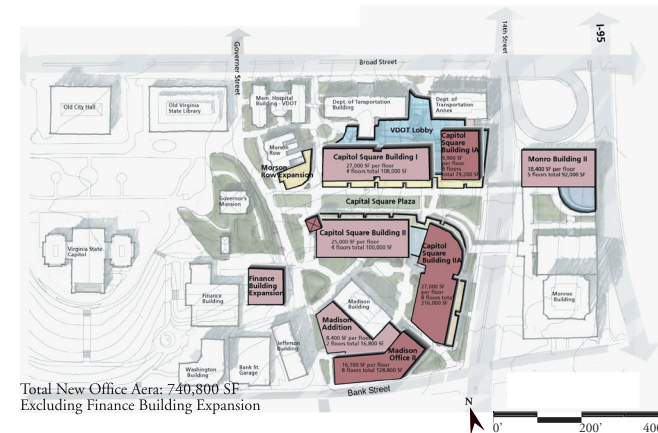


Fig. 6-29 Option A - building program and density

- Legend**
- Low-rise Office Building
  - High-rise Office Building
  - Shared Lobby and Entrance
  - Non-office Program

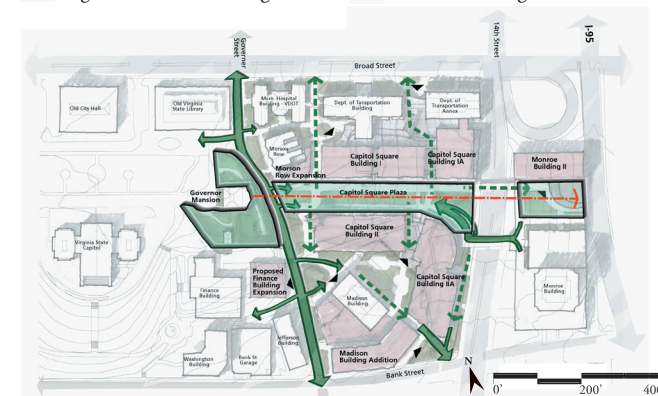


Fig. 6-30 Option A - open space and pedestrian circulation

- Legend**
- Major Street
  - Primary Path
  - Open Space
  - New Building
  - Building Entrance
  - Secondary Path

## Design Options

The consultant team developed three urban design options focusing on the northeast quadrant of the Capitol Square complex, the area most in need of organization. One option was developed further, based on discussions with DGS and the results of the parking and access evaluation. This scheme forms the basis of the final urban design framework. All three design options adhere to the design principles described in the previous section.

### Design Option A

Design Option A creates a rectangular Capitol Square Plaza with the Governor's Mansion as the focal point (see Figures 6-27–30). Two separate building complexes define the plaza. The north complex could serve as a VDOT campus. The south complex surrounds the Madison Building, with a small Monroe link addition located on top of the Monroe Building garage where a second tower originally was proposed. The building scheme is centered on open space, with a covered promenade facing Capitol Square Plaza.

Option A proposes seven new buildings that accommodate approximately 740,800 NASF of new area. The proposed buildings do not include current DGS plans for a new Broad Street building or the proposed Finance Building addition. A smaller

addition to the Morson's Row expansion would accommodate non-office program space.

There are two parking options for Design Option A. The first locates parking garages below the buildings north and south of the plaza, providing a total of 1,514 parking spaces. The second option locates a garage below Capitol Square Plaza as well as below the buildings in the two complexes, providing a total of 1,972 parking spaces. Governor Street is closed to vehicular traffic and redesigned as a pedestrian street with access for emergency vehicles only. Entry and exit points to the garages are located on 14th Street as well as on two cul-de-sacs—one behind the Madison Building and the other adjacent to Memorial Hospital (VDOT). Additional information is provided later in this chapter in the evaluation of parking options.

Design Option A meets all the future space needs of the Capitol Square complex agencies.



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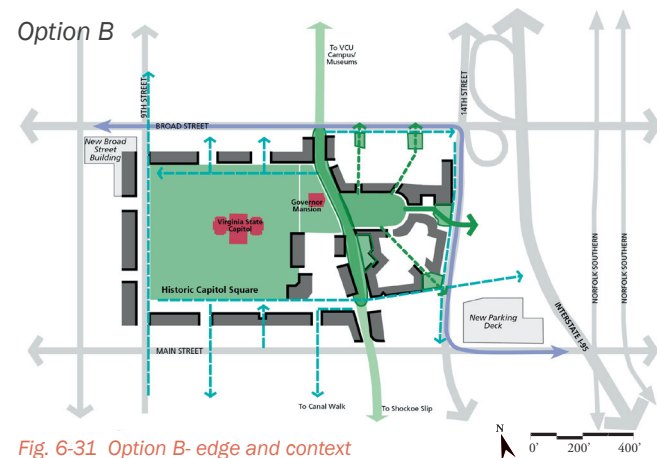


Fig. 6-31 Option B- edge and context

### Legend

- Railroad Line
- Proposed Trolley Line
- Pedestrian Plaza
- Building Streetwalls
- Building Mass
- Proposed Pedestrian Corridor
- Proposed Pedestrian Connector
- Pedestrian Sidewalk
- Open Space / Park

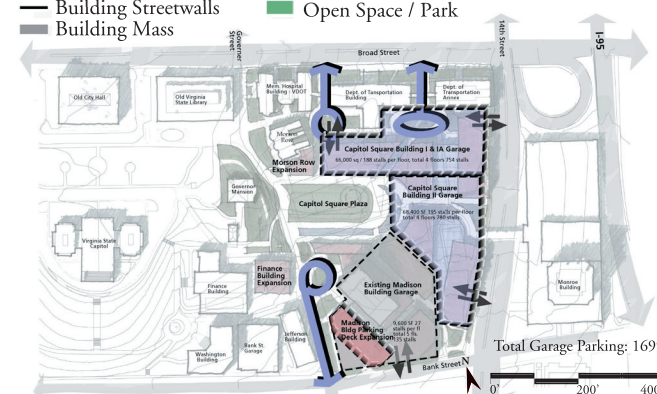
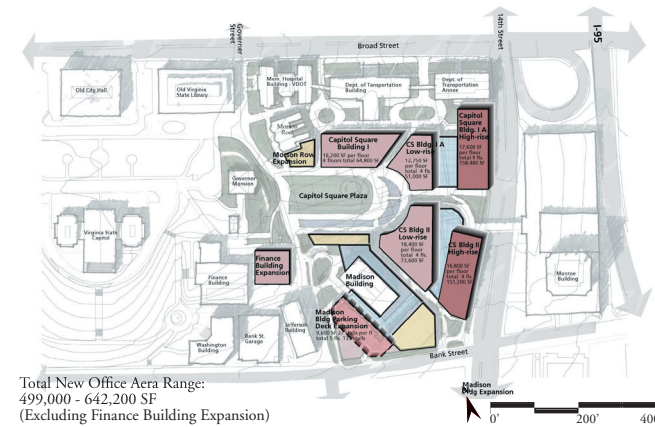


Fig. 6-32 Option B- circulation and parking

### Legend

- Street and Highway
- Existing Garage
- Vehicular Access
- New Garage
- Garage Entrance
- Garage Expansion



Total New Office Area Range:  
499,000 - 642,200 SF  
(Excluding Finance Building Expansion)

Fig. 6-33 Option B- building program and density

### Legend

- Low-rise Office Building
- High-rise Office Building
- Shared Lobby and Entrance
- Non-office Program

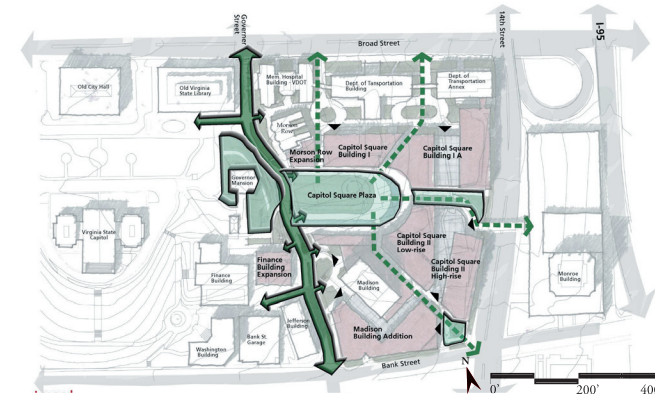


Fig. 6-34 Option B- open space and pedestrian circulation

### Legend

- Major Street
- Primary Path
- Open Space
- New Building
- Building Entrance
- Secondary Path

## Design Option B

Design Option B provides a two-tiered new building approach, with an outer ring of high-rise towers and inner ring of low-rise buildings facing an oval Capitol Square Plaza (see Figures 6-31–34). The plaza acts as an extension of the Capitol Square landscape, with the Governor's Mansion at the center of the open space. A series of pedestrian pathways and smaller open spaces leads from the outer ring of buildings to this central open space; Governor Street forms one such pedestrian alley. Option B does not propose a building addition on top of the Monroe Building garage.

Option B provides seven new buildings excluding the existing DGS proposals that accommodate approximately 499,000 NASF of new area. A non-office space program expansion is proposed for the existing Morson's Row and Madison buildings. Both these additions face the Capitol Square Plaza.

Option B provides two new underground parking garages as well as an addition to the existing Madison Building parking garage. These garages offer a total of 1,660 parking spaces. There is an option to extend the underground parking garages below Capitol Square Plaza. The existing VDOT alleys from Broad Street and a proposed cul-de-sac at the southern end of Governor Street provide entry and exit points for the parking garages and vehicular traffic.

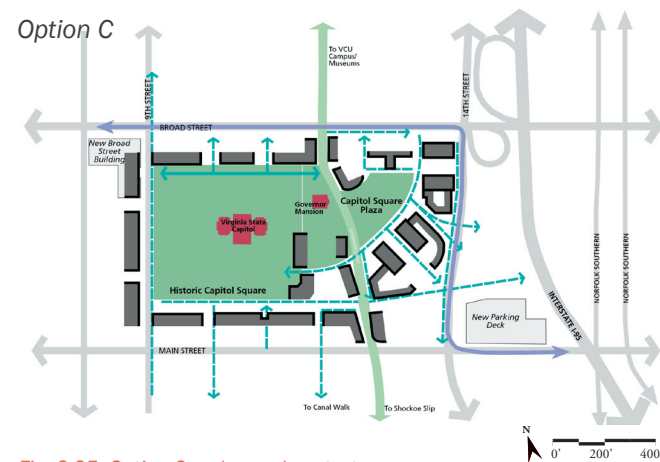


Fig. 6-35 Option C - edge and context

**Legend**

- Railroad Line
- Proposed Trolley Line
- Pedestrian Plaza
- Building Streetwalls
- Building Mass
- Proposed Pedestrian Corridor
- Proposed Pedestrian Connector
- Pedestrian Sidewalk
- Open Space

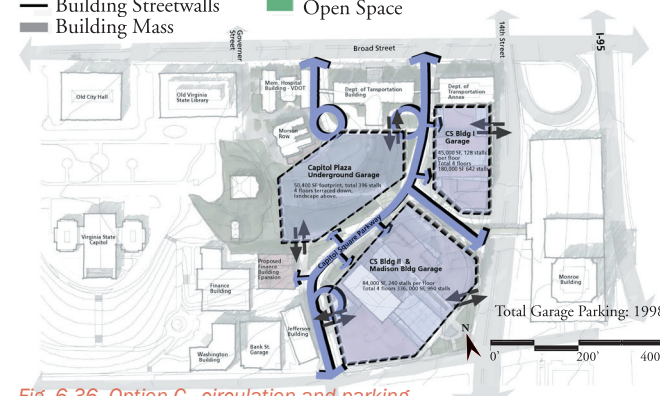


Fig. 6-36 Option C - circulation and parking

**Legend**

- Vehicular Access
- New Garage
- Garage Entrance / Exist Street and Highway

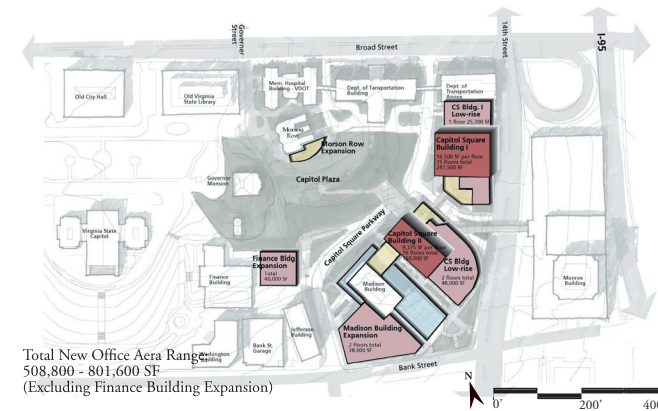


Fig. 6-37 Option C - building program and density

**Legend**

- Low-rise Office Building
- High-rise Office Building
- Shared Lobby and Entrance
- Non-office Program

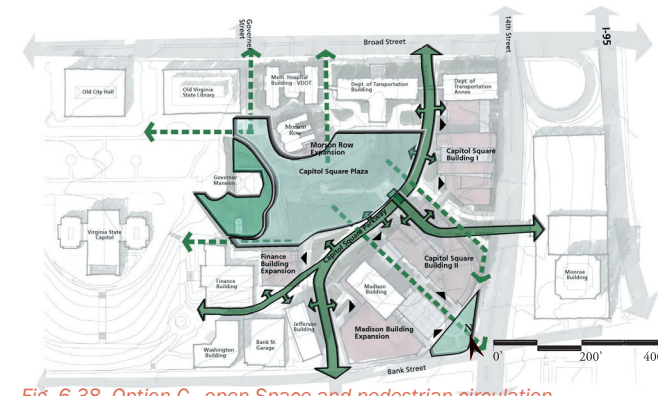


Fig. 6-38 Option C - open Space and pedestrian circulation

**Legend**

- Major Street
- Primary Path
- Open Space
- New Building
- Building Entrance
- Secondary Path

## Design Option C

Design Option C proposes a new Capitol Square Parkway joining Franklin Street with Old 14th Street, between the VDOT Building and Annex (see Figures 6-35–38). The parkway encloses Capitol Square Plaza, which is designed as a continuation of the Capitol Square grounds, incorporating the existing Governor Street into its landscape.

New buildings face Capitol Square Plaza. Option C proposes two new high-rise towers over a low-rise base. The building organization partly recreates the 1952 master plan scheme—i.e., the ring of office buildings—and includes the existing Madison and VDOT Annex buildings. The new buildings in Option C provide approximately 508,800 NASF of new area.

Option C proposes underground garages below the buildings as well as a new garage below Capitol Square Plaza. The new parkway will alleviate existing peak hour exit conditions by providing an alternative street loop besides 14th Street. The three proposed garages provide approximately 1,998 parking spaces.



Table 6-1 Comparison of Building Areas

	Design Option A		Design Option B	Design Option C
	Parking Option A-1	Parking Option A-2		
Total New Building Area (NASF) <sup>1</sup>	740,800	740,800	499,000	508,800
Current/ Phase I space additions not included in the design diagrams <sup>2</sup>	672,994	672,994	672,994	672,994
Subtotal	1,413,794	1,413,794	1,171,994	1,181,794
Demolitions <sup>3</sup> / Relocations	309,626	309,626	309,626	309,626
TOTAL	1,104,168	1,104,168	862,368	872,168
Total Parking Spaces	1514	1972	1660	1998

<sup>1</sup> Excludes currently proposed buildings in Phase I (Finance Building, New Broad Street building).  
<sup>2</sup> Includes new addition for Broad Street building (466,000 NASF), Finance Building expansion (40,000 NASF), Old State Library addition after its renovation (166,994 NASF).  
<sup>3</sup> Includes Eighth and Ninth Street Office building (211,861 NASF), Zincke building (72,158 NASF), Aluminum Building relocation (16,044 NASF), HVAC Shop (5,310 NASF) and Fergusson Building (4,253 NASF) demolitions

## Comparison of Building Areas

Table 6-1 shows the differences in NASF area among the three design options. Design Option A comes closest to matching the projected space program need of approximately 1.2 million NASF. Options B and C fall short by approximately 400,000 NASF. In both these options, building area can easily be increased to bridge the shortfall.

To ensure the master plan goal of utilizing the Capitol Square complex to its fullest potential, DGS staff and the consultant team agreed to use the maximum-area space program option (described in detail in Chapter 5) to generate all three design options. The variation in total building area among the three is the result of site design and built form considerations rather than differences in program. The various urban design options were also evaluated from the standpoint of parking, access, and circulation, as discussed in the following section.

## Evaluation of Parking, Access, and Circulation

The parking sub-consultant, Vanasse Hangen Brustlin, Inc. (VHB), conducted an evaluation of the long-term (Phase II) transportation access, circulation, and traffic operations impacts of the three proposed design options for the Capitol Square area. All three design options would increase the number of state employees within the Capitol Square area. The majority of new development would be bounded by Broad Street, Governor Street, 14th Street and Bank Street. Table 6-2 identifies the total new building area proposed by each of the three options. The following is a summary of VHB’s findings.



Table 6-2 Summary of new building areas for parking evaluation

Building Name	Total New Building Area per Option <sup>1</sup>		
	A	B	C
New Broad Street Office Building <sup>2</sup>	254,139	254,139	254,139
Finance Building Expansion	40,000	40,000	40,000
Capitol Square Building I	108,000	64,800	272,800
Capitol Square Building IA	79,200	209,400	NA
Capitol Square Building II	100,000	224,800	198,000
Capitol Square Building IIA	216,000	NA	NA
Madison Building Expansion I	16,800	NA	38,000
Madison Office Expansion II	128,800	NA	NA
Small Monroe Link Addition	92,000	NA	NA
Total	1,034,939	793,139	802,939

<sup>1</sup>Total office building area is in net assignable square feet (NASF).  
<sup>2</sup>Net new office space was determined by subtracting existing space from Eighth and Ninth Street Office Buildings (211,861 NASF) from the total new building size (466,000 NASF).

Table 6-3 Employee Parking Analysis to Support New Building Development

Parking Facility	Quadrant <sup>1</sup>	Proposed New Parking Spaces per Option			
		A-1	A-2	B	C
New Broad Street Office Building	NW	500	500	500	500
Finance Building Expansion	SE	0	0	0	0
Bldg I/IA Garage	NE	745	NA	754	642
Bldg II/IIA Garage		760	NA	780	NA
Capitol Square Plaza Garage	NE/SE	NA	1,972	NA	NA
Capitol Plaza Underground Garage	NE/SE	NA	NA	NA	396
Bldg II/Madison Bldg Garage	SE	NA	NA	NA	960
Madison Bldg Garage Expansion	SE	NA	NA	135	NA
Total		2,005	2,472	2,169	2,498
Less Existing Surface Parking <sup>2</sup>		-327	-327	-327	-327
Net New Parking		1,678	2,145	1,842	2,171
Required Parking at 80% Target <sup>3</sup>		3,311	3,311	2,538	2,569
Parking Surplus/Deficit <sup>4</sup>		-1,633	-1,166	-696	-398
% Parking Provision <sup>5</sup>		51%	65%	73%	85%

<sup>1</sup>Location of parking facilities within Capitol Square complex as defined by geographic quadrants from the Capitol building.  
<sup>2</sup>Existing surface parking in lots 4,7,14,15 and 16 eliminated with all options.  
<sup>3</sup>Total new building area divided by 250 square feet per employee and then multiplied by 0.8.  
<sup>4</sup>Parking surplus/deficit based on providing parking for 80% of new state employees with average space needs of 250 square feet per employee plus replacing the 327 displaced surface parking spaces.  
<sup>5</sup>Percent of total needed parking that would be provided. This is based on providing parking for 80% of new state employees with average space needs of 250 square feet per employee plus replacing the 327 displaced surface parking spaces.

Parking Adequacy

Table 6-3 summarizes the projected number of new parking spaces provided with the three design options and the ability of this new parking to offset the demand placed by the new land uses. These parking estimates do not include consideration of visitor parking needs.

For Option A, there are two parking options: one with two large parking garages (Option A-1) and the other with one large consolidated parking garage (Option A-2). These two variants of Option A as well as Option B fail to meet parking demand for the proposed uses, assuming that parking is targeted to provide for 80 percent of state employees, and 327 existing surface parking spaces are displaced.

Option C is the only alternative that fully accommodates new employee parking at the 80 percent target and accommodates the displaced 327 surface parking spaces as well.

It is important to differentiate the parking surplus/deficits shown in Table 6-3 from the overall quadrant-based parking analysis (discussed in Chapter 5: Table 5.6) indicating an existing parking deficit of 917 spaces in the northeast quadrant of Capitol Square. Therefore, even with the provision of the proposed new parking facilities, many employees in this section of Capitol Square will still continue to walk down the hill to park, either south to the Main Street corridor (including the proposed 1,500-space DGS parking deck) or east down to the Shockoe Bottom area along Broad Street (where significant public paybox and monthly parking is available).



Access/Circulation

Each of the four parking options shown in Table 6-3 will place different traffic demands on the surrounding street system due to the location of the proposed parking facilities and the supporting internal roadway network. The following are the potential advantages and disadvantages of each:

Options A-1 and A-2

- Old 14th Street closed, replaced with right-in/right-out drop-off loop. This significantly improves egress for VCU Medical Center traffic on College Street and eliminates a short, difficult weave between the Broad Street off-ramp and Old 14th Street.
- Garage access at four locations, one on Broad Street, two on 14th Street, and one on Governor Street. Only one of these locations (Governor Street) currently has signalized access control.
- Existing alley between the main VDOT Building and Memorial Hospital to be used as a primary access point for Buildings I & IA garage. This alley has a median break on Broad Street. The intersection is not signalized and would be difficult to signalize in the future due to the proximity of 12th Street.
- 14th Street access points do not serve either the inbound trip or outbound trip well, with mid-block intersections. Signalization at these two locations is unlikely. Current evening congestion on northbound 14th Street often extends the length of the block between Broad Street and Bank Street.
- Conversion of Bank Street between Governor Street and 9th Street to two-way traffic flow would be needed to improve egress options and alleviate traffic congestion on 14th Street.

Option B

- Existing alley between main VDOT Building and Memorial Hospital to be used as a primary access point for Capitol Square Buildings I & IA garage. This alley has a median break on Broad Street. The intersection is not signalized and would be difficult to signalize in the future due to the proximity of 12th Street.
- Old 14th Street would be kept open on Broad Street but will function internally as a drop-off circle for the existing VDOT buildings and the proposed Capitol Square buildings I, IA (low-rise) and IA (high-rise).
- Given the limited capacity of the existing alley to the west, this street will experience heavy vehicular demand from the Capitol Square I & IA garage, particularly during the evening peak hour.
- In order to prevent morning peak period congestion on Broad Street, consideration should be given to the prohibition of either the westbound Broad Street left-turn onto Old 14th Street or the weaving movement between the Broad Street off-ramp and Old 14th Street. Traffic arriving from northbound and southbound I-95 could access the site using the alley to the west.
- Garage access at four locations: one on Broad Street, two on 14th Street, and one on Bank Street. None of these locations has signalized access control.
- 14th Street access points do not serve either the inbound trip or outbound trip well, with mid-block intersections. Signalization at these two locations is unlikely. Current evening congestion on northbound 14th Street often extends the length of the block between Broad and Bank streets.
- Existing Bank Street garage access from Madison Building is located too close to 14th Street to accommodate significant additional traffic flow (135 additional parking spaces are proposed to use this access point).

- Conversion of Bank Street between Governor Street and 9th Street to two-way traffic flow would be needed to improve egress options and alleviate traffic congestion on 14th Street.

Option C

- Old 14th Street and the southern section of Governor Street would be improved, realigned and renamed as the Capitol Square Parkway to provide a continuous vehicular connection between Broad Street and Bank street.
- In order to prevent morning peak period congestion on Broad Street, consideration should be give to the prohibition of either the westbound Broad Street left-turn onto Capitol Square Parkway or the weaving movement between the Broad Street off-ramp and Capitol Square Parkway. Traffic arriving from southbound I-95 could access the site using the Franklin Street off-ramp, while traffic arriving from northbound I-95 could access the site using the Broad Street loop ramp to 17th Street.
- Garage access at four locations: two on Capitol Square Parkway and two on 14th Street. The two parkway access locations will be able to connect to the surrounding street system under signalized control at each end of Capitol Square Parkway.
- The 14th Street access points do not serve either the inbound trip or outbound trip well with mid-block intersections on a divided, often congested roadway. Signalization at these two locations is unlikely. Current evening congestion on northbound 14th Street often extends the length of the block between Broad and Bank streets.
- The existing Madison Building garage access would be closed on Bank Street and replaced with an improved access point on the southern end of Capitol Square Parkway.



Table 6-4 Overall Employee Parking Supply/Demand and Resultant Parking Target

		Proposed New Parking Spaces per Option			
		A-1	A-2	B	C
Existing Parking Supply <sup>1</sup>		5,036	5,036	5,036	5,036
Proposed Net New Parking Spaces <sup>2</sup>		1,678	2,145	1,842	2,171
Total Parking Spaces		6,714	7,181	6,878	7,207
Existing Employees <sup>3</sup>		6,922	6,922	6,922	6,922
Proposed New Employees <sup>4</sup>		4,140	4,140	3,173	3,212
Total Employees		11,062	11,062	10,095	10,134
Resulting	Parking Target (%) <sup>5</sup>	61%	65%	68%	71%

<sup>1</sup> Existing parking supply includes 1,150 spaces in new DGS deck and elimination of Seaboard Building and Main Street Station lots.

<sup>2</sup> Net parking includes new parking facilities proposed by Design Option minus 327 displaced surface parking spaces.

<sup>3</sup> Daytime population when the General Assembly is in session (see Table 5-6).

<sup>4</sup> New employees determined by dividing total square feet of Design Option by average space needs of 250 square feet per employee.

<sup>5</sup> Ratio of total parking spaces to total employees

- Conversion of Bank Street between Governor and 9th streets to two-way traffic flow would be needed to improve egress options and alleviate traffic congestion on 14th Street.
- The City of Richmond is currently evaluating the feasibility of implementing a downtown trolley service. Based on security concerns on Governor Street and congestion concerns on 14th Street, these two streets are not recommended for use by this potential transit service.

Modification of DGS Parking Policy

DGS currently has a policy to provide parking spaces for 80 percent of state employees with state-owned or leased facilities. However, given the constrained parking supply in downtown Richmond, both within Capitol Square and in the surrounding neighborhoods, this target may not be achievable. With a current shortfall of 501 parking spaces, other options are to:

1. Construct additional parking spaces.
2. Provide travel demand management incentives for employees to use transit, rideshare, telecommute, and work staggered hours in order to reduce the need for parking.
3. Operate a constrained parking supply, forcing more employees to find parking in nearby public lots.
4. A combination of the preceding options.

In order to assess how much is needed to accommodate future employee parking demand, an assessment was performed for each design option to determine the required parking target in order to satisfy the overall Capitol Square parking demand. Table 6-4 shows a summary of this evaluation.

Design Options A-1 and A-2 would require a parking target in the 60–65 percent range, which likely is unrealistic in the Richmond market without major public transportation investments, such as light rail, trolleys, and passenger rail service. Option B would require a parking target of 68 percent, and Option C would require a parking target of 71 percent. Both Options B and C could be attainable with the implementation of traditional travel demand management (TDM) strategies. In fact, the Virginia Department of Transportation (VDOT) is the only state agency that now provides employees incentives/benefits to rideshare and take transit. VDOT offers a transit subsidy program and provides vanpools and carpools using state-owned vehicles. The use of TDM measures to induce more efficient travel is a common practice in many urban areas, and is particularly well suited for centers of government where systematic programs can be developed that are supported by policies (e.g., flexible work hours), services (e.g., bus service expansion, organized vanpools and carpools), and subsidies (e.g., transit checks or discounts).



Roadway Capacity

Existing Congestion

The ability of the existing roadway network to accommodate this additional future parking and traffic demand has been qualitatively evaluated. There is significant congestion on northbound 14th Street during the evening peak hours. Access to the Capitol is also constrained by Interstate I-95 and I-64 as detailed in Chapter 3.

Options A-1 and A-2

Option A-1 and A-2 would put considerable pressure on the proposed parking garage access points on 14th Street at two mid-block locations, and on Broad Street at the alley located between the main VDOT Building and Memorial Hospital. Without traffic signal access—which would be extremely difficult to obtain at these three locations due to signal spacing and congestion issues—significant pressure will occur on the remaining access point on Governor Street just north of the Madison Building. With the proposed conversion of Bank Street to two-way traffic flow, no more than 550 additional evening peak hour vehicles would be able to exit the Capitol Square area. With the peak hour representing approximately 55 percent of total employees, this equates to 1,000 total new employees. This is only one-third of the projected new employee population in the eastern quadrants of Capitol Square.

Option B

Option B, with signalized access onto the surrounding street system from both Old 14th Street (onto Broad Street) and Governor Street (onto Bank Street), is estimated to accommodate approximately 800 additional evening peak-hour vehicle trips. This is equivalent to an exiting capacity of approximately 1,460 employees or 73 percent of total new employee demand in the eastern quadrants of Capitol Square. This option

also requires the conversion of Bank Street between Governor and 9th streets to two-way traffic flow in order to increase travel/circulation options.

Option C

Option C would provide the highest exiting capacity to the surrounding street system with an improved Capitol Square Parkway and a new roadway connection between southbound 14th Street and Capitol Square Parkway. With the addition of a two-way Bank Street between Capitol Square Parkway/12th Street and 9th Street, this option could accommodate approximately 1,000 additional evening peak hour vehicle trips. This is equivalent to an exiting capacity of approximately 1,820 employees or 89 percent of total new employee demand in the eastern quadrants of Capitol Square.

Conclusion

Based on the analyses conducted in this assessment, the design options were evaluated from several points of view:

- 1. How well does the option accommodate new projected employees’ parking demand using a target to provide parking for 80 percent of employees?
- 2. How well does the option help to accommodate overall Capitol Square parking supply/demand deficit using this same 80 percent target?
- 3. What level of parking target is supported by the proposed design options and is this realistic? Can additional parking or travel demand management incentives be provided to offset this difference? To what degree do we force employees to find their own parking in nearby public lots?

- 4. How well would the traffic circulation and garage access work with each design option?
- 5. Can the projected new employees as identified for each design option be accommodated on the roadway network?

Clearly, Option C is the best option from all points of view by providing the most flexibility, controlled access through traffic signals, the greatest amount of surplus parking for use by current employees, and requiring a modest amount of travel demand management, similar to VDOT’s current practices, that if implemented for all state employees, would help to satisfy long-term parking demands on the Capitol Square campus. Option B is the second-best alternative for many of the same reasons as Option C, but it is also the design option with the lowest amount of new development. From a transportation perspective, Options A-1 and A-2 have several drawbacks, including poor garage access and limited egress capacity.

For all three design options, the addition of the new Broad Street office building will exert significant parking pressure on the western side of Capitol Square. This section currently has a parking deficit of 435 employee parking spaces. The Broad Street office building will not provide sufficient parking as currently planned to accommodate all new projected employees; consequently, this deficit will increase. Consideration should be given to new employee parking facilities on the west side of Capitol Square as identified in earlier efforts, including increased parking space acquisition in the VRS Deck, or construction of new parking garages on the Old City Hall site, an 8th Street site (to the west of the VRS Deck), and a parking deck on 7th Street near Clay Street.